proposed requiring VSAT systems licensed after the effective date of any rules we adopt to comply with those rules. The Commission proposed basing the transition mechanism on licensing dates rather than application filing dates to avoid a large influx of VSAT applications prior to the transition dates.[292]

135. In the *Sixth Report and Order* above, we noted that SIA opposes applying any new VSAT requirements to existing VSAT networks, because of the expense of retrofitting all the remote earth stations in a VSAT network.[293] Accordingly, we will not apply the TDMA, FDMA, and CDMA requirements adopted in the *Sixth Report and Order* above to earth stations licensed before this Order is adopted. We propose adopting the same grandfathering provisions for any contention protocol requirements we adopt, and we seek comment on that proposal.

6. Contention Protocol Conclusions

136. In summary, we find that we must revise Section 25.134 to allow contention protocols. We also find that the new contention protocol rules should (i) impose an aggregate off-axis EIRP limit on VSAT networks, rather than a power limit on individual earth stations; (ii) allow VSAT operators to exceed the proposed aggregate off-axis EIRP envelope for a small percentage of the time; and (iii) limit the maximum duration of any collision to no more than 100 milliseconds. Based on those determinations, we develop a new proposal for contention protocol requirements, and we invite further comment on that proposal. We also explain that any party proposing different contention protocol requirements must show that its proposal strikes a better balance between protecting adjacent satellites from harmful interference and allowing VSAT network operators to make efficient use of their facilities.

137. We propose limiting the new contention protocol rule to Ku-band VSAT networks. We do not propose any new requirements for C-band and Ka-band VSAT systems using contention protocols, because those systems are relatively new, they do not carry the same traffic volumes as Ku-band VSAT networks. We also propose requiring VSAT applicants to certify that they will meet the contention protocol requirements, and grandfathering existing VSAT networks. We seek comment on all these proposals.

E. Quiet Zone For Radio Astronomy

138. *Background.* In addition to the off-axis EIRP issues discussed above, the Commission deferred another issue to this proceeding. Specifically, in the *Fifth Report and Order*, the Commission adopted its proposal to permit multiple hub stations under a single VSAT network license.[294] Although none of the commenters opposed this proposal, the National Radio Astronomy Observatory (NRAO) recommended placing a limitation on multiple-hub VSAT networks that may operate within the "Quiet Zone." NRAO observes that Section 25.203(f) of the Commission's rules establishes a "Quiet Zone" for radio astronomy in a 13,000 square mile area in Virginia, West Virginia, and Maryland.[295] Under Section

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292 *Further Notice*, 17 FCC Rcd at 18625 (para. 108).

293 SIA Further Comments at 20-21. *See also* SIA February 1, 2005 *Ex Parte* Statement at 2 (recommending grandfathering for any contention protocol requirements that the Commission may adopt).

294 *Fifth Report and Order* at para. 125; *Notice*, 15 FCC Rcd at 25148 (paras. 58-59).

295 The Quiet Zone is an area bounded by 39° 15' N.L., 78° 30' W.L., 37° 30' N.L., and 80° W.L. *See* 47 C.F.R. § 25.203(f).

25.203(f), anyone seeking a license in that area must notify the NRAO.[296] NRAO is given 20 days to file an objection to the proposed operations with the Commission. If NRAO files an objection, Section 25.203(f) states that the Commission may take whatever action it deems appropriate.[297]

139. NRAO requested that the Commission adopt procedures to ensure that VSAT systems that are authorized to add hubs or remotes to their system without filing an additional application continue to protect NRAO's radio astronomy operations in the Quiet Zone, and proposed adding the following language to the end of Section 25.203(f).[298]

> Licensees or permittees of systems serving geographic areas which are authorized to add transmission facilities without further application to, or approval by, the Commission, and which additional transmission facilities are located within the coordinates specified above, shall, prior to allowing such additional transmission facilities to operate, notify the National Radio Astronomy Observatory (NRAO) and coordinate the construction and operation to minimize possible harmful interference to the NRAO. A certificate of coordination signed by an authorized representative of the NRAO shall be made available to the Commission upon request. Comments or objections by the NRAO in response to such coordination, or non-coordination if appropriate, will be considered by the Commission in the same manner as comments or objections to applications as stated above.

140. In the *Fifth Report and Order*, the Commission concluded that the language proposed by NRAO is unnecessary with respect to hub earth stations because VSAT network applicants are required to specify the location and the operating parameters of all the hubs in their networks, and cannot add hubs without filing a modification application.[299] The Commission also found that NRAO's request for a new coordination requirement on VSAT remote terminals was beyond the scope of the *Notice* and *Further Notice*, and deferred that issue to this *Third Further Notice*.

141. *Discussion.* We seek comment on NRAO's proposed coordination requirements for remote terminals within the Quiet Zone. On one hand, we understand NRAO's concerns regarding the Quiet Zone. The Commission created the Quiet Zone in 1958 to minimize possible harmful interference to NRAO's radio astronomy operations.[300] The Commission has since maintained this level of protection.[301]

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296 NRAO Reply at 1-2, *citing* 47 C.F.R. § 25.203(f); Amendment of Part 2 of the Commission's Rules and Regulations to Give Interference Protection to Frequencies Utilized for Radio Astronomy, Amendment of Part 3, 4, 5, 6, 7, 9, 10, 11, 16, 20, and 21 of the Commission's Rules and Regulations to Give Interference Protection to Frequencies Utilized for Radio Astronomy, *Report and Order*, Docket No. 11745, FCC 58-1111, 17 Rad. Reg. 1738 (1958) (*Quiet Zone Order*).

297 47 C.F.R. § 25.203(f).

298 NRAO Reply at 2-3.

299 *Fifth Report and Order* at para. 127.

300 *Quiet Zone Order*, 17 Rad. Reg. at 1741 (para. 7).

301 *See* Amendment of the General Mobile Radio Service (Part 95) and Amateur Mobile Radio Service (Part 97) Rules to Establish Procedures to Minimize Potential Interference to Radio Astronomy Operations, *Report and Order*, SS Docket No. 78-352, 85 FCC 2d 738, 742 (para. 17) (1981), *aff.d* 88 FCC 2d 78 (1981)

We do not intend our rules allowing multiple-hub VSAT systems to reduce the protection afforded by the Quiet Zone to NRAO's radio astronomy operations. On the other hand, the Commission did not intend the Quiet Zone to impede the development of radio services.[302] Thus, the Commission's rules generally give NRAO an opportunity to comment on proposed radio operations in the Quiet Zone.[303] The Commission does not currently require any licensee to obtain a certificate of coordination from NRAO prior to beginning operations in the Quiet Zone.

142. Accordingly, we invite interested parties to discuss whether we should require VSAT network operators to complete coordination with NRAO prior to placing any remote earth stations in the Quiet Zone, rather than simply notifying NRAO as they are required to do now. Would placing such a coordination requirement on VSAT network operators create a better balance between protecting NRAO's important radio astronomy operations and removing impediments to the development of other radio services, relative to the current balance under the Quiet Zone notification requirement in effect since 1958? We note that the Commission currently has only a notification requirement, rather than a coordination requirement, for terrestrial wireless operations in the Quiet Zone.[304]

V. CONCLUSIONS

143. In the *Sixth Report and Order* adopted in this document, we adopted revisions to the earth station antenna gain pattern requirements, and we addressed issues raised by the use of contention protocols in very small aperture terminal networks.

144. In the *Third Further Notice* adopted in this document, we propose to replace the current Part 25 earth station licensing regime with processing based on earth station applications meeting proposed off-axis EIRP envelope in the conventional C-band and Ku-band. We also propose procedures for processing earth station applications that do not meet the proposed off-axis EIRP envelopes, and we proposed information requirements that will needed in applications filed under the proposed off-axis EIRP envelope regime. We expect that the adopted and proposed changes in this document will continue to encourage innovation in the development of earth station communications, and thereby accelerate additional and improved service to the public, without increasing harmful interference.

(extending Quiet Zone protection to Amateur radio and General Mobile radio station licenses); Review of Quiet Zones Application Procedures, *Report and Order*, WT Docket No. 01-319, 19 FCC Rcd 3267 (2004) (Streamlining procedures for terrestrial wireless applications requiring Quiet Zone coordination without reducing or eliminating Quiet Zone protection).

[302] *Quiet Zone Order*, 17 Rad. Reg. at 1741 (para. 10). *See also* Amendment of Section 22.949 of the Commission's Rules to Provide for a Moratorium on Acceptance of Unserved Area Cellular Applications Within the National Radio Quiet Zone, *Order*, RM-8647, 15 FCC Rcd 2728 (Wireless Bur., 2000) (granting waivers to two cellular licensees to allow them to expand their networks into Quiet Zone).

[303] *See* 47 C.F.R. § 25.203(f) (applicants must notify NRAO, NRAO is given a 20-day period to comment, and the Commission "will consider all aspects of the problem and take whatever action is deemed appropriate.") *See also* 47 C.F.R. § 1.924 (wireless service applicants must follow a procedure substantially similar to that spelled out in Section 25.203(f)).

[304] 47 C.F.R. § 1.924.

VI. PROCEDURAL MATTERS

145. *Final Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act (RFA),[305] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated into the *Notice* and the *Further Notice*.[306] The Commission sought written public comments on the possible significant economic impact of the proposed policies and rules on small entities in the *Notice* and *Further Notice*, including comments on the IRFA. No one commented specifically on the IRFA. Pursuant to the RFA,[307] a Final Regulatory Flexibility Analysis is contained in Appendix D.

146. *Paperwork Reduction Act Analysis.* The rule revisions adopted in this *Sixth Report and Order* have been analyzed with respect to the Paperwork Reduction Act of 1995, Pub. L. 104-13, and do not contain new and/or modified information collections subject to Office of Management and Budget review.

147. This *Third Further Notice* contains proposed new and modified information collection(s). The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection(s) contained in this NPRM, as required by the Paperwork Reduction Act of 1995, Public Law No. 104-13. Public and agency comments are due 60 days from date of publication of the NPRM in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law No. 107-198, *see* 44 U.S.C. § 3506(c)(4), we seek specific comment on how we might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

148. A copy of any comments on the information collections contained herein should be submitted to Judy Boley Herman, Federal Communications Commission, Room 1-C804, 445 12th Street, SW, Washington, DC 20554, or via the Internet to jbHerman@fcc.gov and to Kristy L. LaLonde, OMB Desk Officer, Room 10234 NEOB, 725 17th Street, N.W., Washington, DC 20503, via the Internet to Kristy_L. LaLonde@omb.eop.gov, or via fax at 202-395-5167.

149. *Initial Regulatory Flexibility Analysis.* Appendix E to this document contains the analysis required by the Regulatory Flexibility Act of 1980, 5 U.S.C. § 603.

150. *Ex Parte Presentations.* This is a permit-but-disclose rulemaking proceeding. *Ex parte* presentations are permitted, provided they are disclosed as provided in Sections 1.1202, 1.1203, and 1.1206(a) of the Commission's Rules, 47 C.F.R. §§ 1.1202, 1.1203, 1.1206(a).

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305 *See* 5 U.S.C. § 603.

306 *Notice*, 15 FCC Rcd at 25212-15 (App. G); *Further Notice*, 17 FCC Rcd at 18642-45 (App. C).

307 *See* 5 U.S.C. § 604.

151. *Comment.* Pursuant to sections 1.415 and 1.419 of the Commission's rules,[308] interested parties may file comments within 60 days after this *Further Notice* is published in the Federal Register and reply comments within 90 days after this *Further Notice* is published in the Federal Register. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.[309] Comments filed through the ECFS can be sent as an electronic file via the Internet to http://www.fcc.gov/cgb/ecfs/. Generally, only one copy of an electronic submission must be filed. If multiple docket or rulemaking numbers appear in the caption of the proceeding, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number, in this case, **IB Docket No. 00-248**. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number.

152. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). **Parties are strongly encouraged to file comments electronically using the Commission's ECFS.**

153. The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002.

- The filing hours at this location are 8:00 a.m. to 7:00 p.m.
- All hand deliveries must be held together with rubber bands or fasteners.
- Any envelopes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554.

154. All filings must be addressed to the Commission's Secretary, Marlene H. Dortch, Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Washington, D.C. 20554. Parties should also send a copy of their filings to Victoria Goldberg, Pricing Policy Division, Wireline Competition Bureau, Federal Communications Commission, Room 5-A266, 445 12th Street, SW, Washington, D.C. 20554, or by e-mail to victoria.goldberg@fcc.gov. Parties shall also serve one copy with the Commission's copy contractor, Best Copy and Printing, Inc. (BCPI), Portals II, 445 12th Street, SW, Room CY-B402, Washington, D.C. 20554, (202) 488-5300, or via e-mail to fcc@bcpiweb.com.

155. Documents in CC Docket No. 01-92 are available for public inspection and copying during business hours at the FCC Reference Information Center, Portals II, 445 12th St. SW, Room CY-A257, Washington, DC 20554. The documents may also be purchased from BCPI, telephone (202) 488-5300, facsimile (202) 488-5563, TTY (202) 488-5562, e-mail fcc@bcpiweb.com.

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[308] 47 C.F.R. §§ 1.415, 1.419.

[309] *See Electronic Filing of Documents in Rulemaking Proceedings*, GC Docket No. 97-113, Report and Order, 13 FCC Rcd 11322 (1998).

156. *Additional Information.* For general information concerning this rulemaking proceeding, contact Steven Spaeth, International Bureau, at (202) 418-1539, or Mark Young, International Bureau, at (202) 418-0762.

VII. ORDERING CLAUSES

157. Accordingly, IT IS ORDERED, pursuant to Sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 157(a), 303(c), 303(f), 303(g), 303(r), that this *Sixth Report and Order* in IB Docket No. 00-248 is hereby ADOPTED.

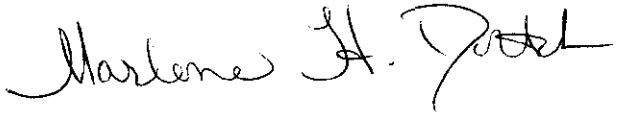
158. IT IS FURTHER ORDERED that Part 25 of the Commission's rules IS AMENDED as set forth in Appendix B. An announcement of the effective date of these rule revisions will be published in the Federal Register.

159. IT IS FURTHER ORDERED that the Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Order, including the Final Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

160. Accordingly, IT IS ORDERED, pursuant to Sections 4(i), 7(a), 11, 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 157(a), 161, 303(c), 303(f), 303(g), 303(r), that this *Third Further Notice of Proposed Rulemaking* is hereby ADOPTED.

161. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief, Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION



Marlene H. Dortch
Secretary

APPENDIX A

Parties filing Pleadings

Comments (March 26, 2001)

1. Aloha Networks, Inc. (Aloha Networks)
2. Andrew Corporation
3. Astrolink International LLC (Astrolink)
4. GE American Communications, Inc. (GE Americom)
5. Globalstar USA, Inc. and Globalstar, L.P. (Globalstar)
6. Hughes Network Systems, Hughes Communications, Inc., and Hughes Communications Galaxy, Inc. (together, Hughes)
7. Loral Space & Communications Ltd. (Loral)
8. Motient Services, Inc. (Motient)
9. New Skies Satellites N.V. (New Skies)
10. PanAmSat Corporation (PanAmSat)[1]
11. Spacenet, Inc., and StarBand Communications, Inc. (together, Spacenet)
12. Telesat Canada (Telesat)
13. WorldCom, Inc. (WorldCom)

Replies (May 7, 2001)

1. Aloha Networks[2]
2. Astrolink
3. Comtech Mobile Datacom Corp. (CMDC)
4. GE Americom
5. Hughes
6. National Radio Astronomy Observatory (NRAO)
7. OnSat Network Communications, Inc. (Onsat)
8. PanAmSat
9. Satellite Industry Association (SIA)
10. Spacenet
11. Telesat

Further Comments (March 10, 2003)

1. Aloha Networks, Inc. (Aloha Networks)
2. General Communication, Inc. (GCI)
3. QUALCOMM, Incorporated (Qualcomm)
4. SIA
5. Spacenet

Further Replies (April 8, 2003)

1. Aloha Networks

[1] On April 10, 2001, PanAmSat corrected certain minor errors and re-filed its comments.

[2] On May 9, 2001, Aloha Networks corrected certain minor errors and re-filed its reply.

2. Qualcomm
3. SIA
4. Spacenet
5. Telesat

Ex Parte Statements

1. Letter from Joseph A. Godles, Attorney for PanAmSat Corporation, to Magalie Roman Salas, Secretary, FCC (dated Oct. 22, 2001) (PanAmSat October 22, 2001 *Ex Parte* Statement).
2. Letter from Richard DalBello, Executive Director, Satellite Industry Association, to Magalie Roman Salas, Secretary, FCC (dated Nov. 5, 2001) (SIA November 5, 2001 *Ex Parte* Statement).
3. Letter from Dori K. Bailey of Latham and Watkins, to Magalie Roman Salas, Secretary, FCC (dated Dec. 11, 2001) (SIA November 19, 2001 *Ex Parte* Statement).[3]
4. Letter from Joseph A. Godles, Attorney for PanAmSat Corporation, to Magalie Roman Salas, Secretary, FCC (dated Nov. 20, 2001) (PanAmSat November 20, 2001 *Ex Parte* Statement).
5. Letter from Dori K. Bailey of Latham and Watkins, to Magalie Roman Salas, Secretary, FCC (dated Dec. 11, 2001) (SIA December 10, 2001 *Ex Parte* Statement).
6. Letter from Dori K. Bailey of Latham and Watkins, to Magalie Roman Salas, Secretary, FCC (dated Dec. 21, 2001) (Hughes December 21, 2001 *Ex Parte* Statement).
7. Surreply of the Satellite Industry Association to the Reply Comments of Telesat Canada and Qualcomm, Incorporated (dated Oct. 3, 2003) (SIA October 3, 2003 *Ex Parte* Statement).
8. Letter from Jacob S. Farber, Attorney for Aloha Networks, Inc., to Marlene H. Dortch, Secretary, FCC (dated Nov. 14, 2003) (Aloha Networks November 14, 2003 *Ex Parte* Statement).
9. Letter from Lewis J. Paper, Attorney for Aloha Networks, Inc., to Marlene H. Dortch, Secretary, FCC (dated Feb. 3, 2004) (Aloha Networks February 3, 2004 *Ex Parte* Statement).
10. Letter from Richard DalBello, President, Satellite Industry Association, to Marlene H. Dortch, Secretary, FCC (dated Mar. 23, 2004) (SIA March 23, 2004 *Ex Parte* Statement).
11. Letter from Dean R. Brenner, Attorney for Qualcomm Incorporated, to Marlene H. Dortch, Secretary, FCC (dated Mar. 31, 2004) (Qualcomm March 31, 2004 *Ex Parte* Statement).
12. Letter from Carlos M. Nalda, Attorney for The Boeing Company, to Marlene H. Dortch, Secretary, FCC (dated Apr. 14, 2004) (Boeing April 14, 2004 *Ex Parte* Statement).
13. Letter from Carlos M. Nalda, Attorney for The Boeing Company, to Marlene H. Dortch, Secretary, FCC (dated Apr. 19, 2004) (Boeing April 19, 2004 *Ex Parte* Statement).
14. Letter from Jacob S. Farber, Attorney for Aloha Networks, Inc., to Marlene H. Dortch, Secretary, FCC (dated May 12, 2004) (Aloha Networks May 12, 2004 *Ex Parte* Statement).
15. Letter from Joseph A. Godles, Attorney for PanAmSat Corporation, to Marlene H. Dortch, Secretary, FCC (dated Nov. 19, 2004) (PanAmSat November 19, 2004 *Ex Parte* Statement).
16. Letter from Joseph A. Godles, Attorney for PanAmSat Corporation, to Marlene H. Dortch, Secretary, FCC (dated Feb. 1, 2005) (SIA February 1, 2005 *Ex Parte* Statement).

[3] Although SIA made this oral *ex parte* presentation to Commission staff on November 19, 2001, it did not file a written summary of its *ex parte* presentation until December 11, 2001. Section 1.1206(b)(2) of the Commission's rules requires persons making oral *ex parte* presentations that include new data or arguments to summarize the new information in writing and file it with the Commission no later than one business day after the *ex parte* presentation. 47 C.F.R. § 1.1206(b)(2). In the *Further Notice*, the Commission determined that it need not determine what action, if any, is warranted with respect to SIA's late-filed *ex parte* statement, as the proposals in the November 19, 2001 *Ex Parte* Statement are the same as those in the SIA November 5, 2001 *Ex Parte* Statement and the SIA December 10, 2001 *Ex Parte* Statement. *Further Notice*, 17 FCC Rcd at 18590 n.29.

APPENDIX B

Rule Changes

For the reasons discussed above, the Federal Communications Commission amends title 47 of the Code of Federal Regulations, part 25, as follows:

PART 25 -- SATELLITE COMMUNICATIONS

1. The authority citation for Part 25 continues to read as follows:

Authority: 47 U.S.C. 701-744. Interprets or applies Sections 4, 301, 302, 303, 307, 309, and 332 of the Communications Act, as amended, 47 U.S.C. Sections 154, 301, 302, 303, 307, 309, 332, unless otherwise noted.

2. Amend § 25.134 by revising paragraph (a)(1) and adding paragraphs (g) and (h), to read as follows:

§ 25.134 Licensing provisions of Very Small Aperture Terminal (VSAT) and C-band Small Aperture Terminal (CSAT) networks.

(a)(1) VSAT networks operating in the 12/14 GHz bands. All applications for digital VSAT networks granted on or before **[Insert effective date of rule]** with a maximum outbound downlink EIRP density of +10.0 dBW/4 kHz per carrier and earth station antennas with maximum input power density of -14 dBW/4 kHz will be processed routinely. All applications for analog VSAT networks with maximum outbound downlink power densities of +17.0 dBW/4 kHz per carrier and maximum antenna input power densities of -8.0 dBW/4 kHz shall be processed routinely in accordance with Declaratory Order in the Matter of Routine Licensing of Earth Stations in the 6 GHz and 14 GHz Bands Using Antennas Less than 9 Meters and 5 Meters in Diameter, Respectively, for Both Full Transponder and Narrowband Transmissions, 2 FCC Rcd 2149 (1987) (Declaratory Order).

* * *

(g) Starting **[Insert adoption date of order]** , all applications for VSAT service in the 12/14 GHz band that meet the following requirements will be routinely processed:

(1) The maximum transmitter power spectral density of a digital modulated carrier into any GSO FSS earth station antenna shall not exceed - 14.0 - 10log(N) dB(W/4 kHz). For a VSAT network using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For a VSAT network using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) The maximum GSO FSS satellite EIRP spectral density of the digital modulated emission shall not exceed 10 dB (W/4kHz) for all methods of modulation and accessing techniques.

(3) The maximum transmitter power spectral density of an analog carrier into any GSO FSS earth station antenna shall not exceed – 8.0 dB(W/4kHz) and the maximum GSO FSS satellite EIRP spectral density shall not exceed + 17.0 dB(W/4kHz).

(h) VSAT operators licensed pursuant to this section are prohibited from using remote earth stations in their networks that are not designed to stop transmissions from their remote earth stations when synchronization with the target satellite fails.

3. In § 25.212, revise paragraph (d) to read as follows:

§ 25.212 Narrowband analog transmissions, digital transmissions, and video transmissions in the GSO Fixed-Satellite Service.

* * * * *

(d)(1) For earth stations licensed before **[Insert adoption date of order]** in the 5925-6425 MHz band, an earth station with an equivalent diameter of 4.5 meters or greater may be routinely licensed for transmission of SCPC services if the maximum power densities into the antenna do not exceed +0.5 dBW/4 kHz for analog SCPC carriers with bandwidths up to 200 kHz, and do not exceed -2.7 dBW/4 kHz for narrow and/or wideband digital SCPC carriers.
(2) For earth stations licensed after **[Insert adoption date of order]** in the 5925-6425 MHz band, an earth station with an equivalent diameter of 4.5 meters or greater may be routinely licensed for transmission of SCPC services if the maximum power densities into the antenna do not exceed +0.5 dBW/4 kHz for analog SCPC carriers with bandwidths up to 200 kHz, and do not exceed -2.7 – 10log(N) dBW/4 kHz for narrow and/or wideband digital SCPC carriers. For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.
(3) Antennas with an equivalent diameter smaller than 4.5 meters in the 5925-6425 MHz band are subject to the provisions of §25.220 of this chapter, which may include power reduction requirements.

* * * * *

4. In § 25.221, revise paragraphs (a)(1), (a)(2), and (a)(4) to read as follows:

§ 25.221 Blanket Licensing provisions for Earth Stations on Vessels (ESV) receiving in the 3700-4200 MHz (space-to-Earth) frequency band and transmitting in the 5925-6425 MHz (Earth-to-space) frequency band, operating with Geostationary Satellites in the Fixed-Satellite Service.

(a) All applications for licenses for ESVs transmitting in the 5925-6425 MHz (Earth-to-space) bands to geostationary-orbit satellites in the fixed-satellite service shall provide sufficient data to demonstrate that the ESV operations meet the following criteria, which are ongoing requirements that govern all ESV licensees and operations in these bands:

(1) The off-axis EIRP spectral density for co-polarized signals, emitted from the ESV, in the plane of the geostationary satellite orbit as it appears at the particular earth station location (*i.e.*, the plane determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite), shall not exceed the following values:

$26.3 - 25\log(\theta) - 10\log(N)$ dBW/4kHz	for	$1.0° \le \theta \le 7.0°$
$5.3 - 10\log(N)$ dBW/4kHz	for	$7.0° < \theta \le 9.2°$
$29.3 - 25\log(\theta) - 10\log(N)$ dBW/4kHz	for	$9.2° < \theta \le 48°$
$-12.7 - 10\log(N)$ dBW/4kHz	for	$48° < \theta \le 180°$

where θ is the angle in degrees from the axis of the main lobe. For an ESV network using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For an ESV network using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, the off-axis EIRP spectral density for co-polarized signals emitted from the ESV shall not exceed the following values:

29.3 - 25log(θ) - 10 log(N) dBW/4kHz	for	$1.0° \leq \theta \leq 48°$
-12.7 - 10 log(N) dBW/4kHz	for	$48° < \theta \leq 180°$

where θ and N are defined as set forth in paragraph (a)(1).

* * *

(4) In all directions, the off-axis EIRP spectral density for cross-polarized signals emitted from the ESV shall not exceed the following values:

16.3 - 25log(θ) - 10 log(N) dBW/4kHz	for	$1.8° \leq \theta \leq 7.0°$
-4.7 - 10 log(N) dBW/4kHz	for	$7.0° < \theta \leq 9.2°$

where θ and N are defined as set forth in paragraph (a)(1).

* * * * *

5. In § 25.222, revise paragraphs (a)(1), (a)(2), and (a)(4) to read as follows:

§ 25.222 Blanket Licensing provisions for Earth Stations on Vessels (ESVs) receiving in the 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) frequency bands and transmitting in the 14.0-14.5 GHz (Earth-to-space) frequency band, operating with Geostationary Satellites in the Fixed-Satellite Service.

(a) All applications for licenses for ESVs receiving in the 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) frequency bands, and transmitting in the 14.0-14.5 GHz (Earth-to-space) frequency band, to Geostationary Satellites in the fixed-satellite service shall provide sufficient data to demonstrate that the ESV operations meet the following criteria, which are ongoing requirements that govern all ESV licensees and operations in these bands:

(1) The off-axis EIRP spectral density for co-polarized signals, emitted from the ESV in the plane of the geostationary satellite orbit as it appears at the particular earth station location (*i.e.*, the plane determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite), shall not exceed the following values:

15 - 25log(θ) - 10 log(N) dBW/4kHz	for	$1.25° \leq \theta \leq 7.0°$
-6 - 10 log(N) dBW/4kHz	for	$7.0° < \theta \leq 9.2°$
18 - 25log(θ) - 10 log(N) dBW/4kHz	for	$9.2° < \theta \leq 48°$
-24 - 10 log(N) dBW/4kHz	for	$48° < \theta \leq 180°$

where θ is the angle in degrees from the axis of the main lobe. For an ESV network using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one.

For an ESV network using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, the off-axis EIRP spectral density for co-polarized signals emitted from the ESV shall not exceed the following values:

$18 - 25\log(\theta) - 10\log(N)$ dBW/4kHz	for	$1.25° \leq \theta \leq 48°$
$-24 - 10\log(N)$ dBW/4kHz	for	$48° < \theta \leq 180°$

where θ and N are defined as set forth in paragraph (a)(1).

* * *

(4) In all directions, the off-axis EIRP spectral density for cross-polarized signals emitted from the ESV shall not exceed the following values:

$5 - 25\log(\theta) - 10\log(N)$ dBW/4kHz	for	$1.8° \leq \theta \leq 7°$
$-16 - 10\log(N)$ dBW/4kHz	for	$7° < \theta \leq 9.2°$

where θ and N are defined as set forth in paragraph (a)(1).

* * * * *

APPENDIX C

Proposed Off-Axis EIRP Envelopes for FSS Earth Station Applications

In this Appendix, we propose several off-axis EIRP envelopes for various types of FSS earth station transmissions. These proposals are based in large part on the earth station requirements of Part 25, as revised in the *Sixth Report and Order* adopted concurrently with this *Third Notice of Proposed Rulemaking*.

I. Power Limits for C-band Analog Earth Stations

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

$29.5 - 25\log_{10}\theta$	dBW/4 kHz	For	$1.5° \leq \theta \leq 7°$
8.5	dBW/4 kHz	For	$7° < \theta \leq 9.2°$
$32.5 - 25\log_{10}\theta$	dBW/4 kHz	For	$9.2° < \theta \leq 48°$
-9.5	dBW/4 kHz	For	$48° < \theta \leq 180°$

where θ is the angle in degrees from the axis of the main lobe. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dBW/4 kHz.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

$32.5 - 25\log_{10}\theta$	dBW/4 kHz	For	$3° \leq \theta \leq 48°$
-9.5	dBW/4 kHz	For	$48° < \theta \leq 180°$

where θ is defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dBW/4 kHz. The region of the main reflector spillover energy is to
be interpreted as a single lobe and shall not exceed the envelope by more than 6 dBW/4 kHz.

II. Power Limits for C-band Digital Earth Stations

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

$27.3 - 10\log_{10}(N) - 25\log_{10}\theta$	dBW/4 kHz	For	$1.5° \leq \theta \leq 7°$
$5.3 - 10\log_{10}(N)$	dBW/4 kHz	For	$7° < \theta \leq 9.2°$
$29.3 - 10\log_{10}(N) - 25\log_{10}\theta$	dBW/4 kHz	For	$9.2° < \theta \leq 48°$
$-12.7 - 10\log_{10}(N)$	dBW/4 kHz	For	$48° < \theta \leq 180°$

where θ is the angle in degrees from the axis of the main lobe, and N is defined below. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dBW/4 kHz.

For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one.
For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

$29.3 - 10\log_{10}(N) - 25\log_{10}\theta$	dBW/4 kHz	For	$3° \leq \theta \leq 48°$
$-12.7 - 10\log_{10}(N)$	dBW/4 kHz	For	$48° < \theta \leq 180°$

where θ and N are defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dBW/4 kHz. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dBW/4 kHz.

III. Power Limits for Ku-band Analog Earth Stations

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

$21 - 25\log_{10}\theta$	dBW/4 kHz	For	$1.5° \leq \theta \leq 7°$
0	dBW/4 kHz	For	$7° < \theta \leq 9.2°$
$24 - 25\log_{10}\theta$	dBW/4 kHz	For	$9.2° < \theta \leq 48°$
-18	dBW/4 kHz	For	$48° < \theta \leq 85°$
- 8	dBW/4 kHz	For	$85° < \theta \leq 180°$

where θ is the angle in degrees from the axis of the main lobe. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dBW/4 kHz.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

$24 - 25\log_{10}\theta$	dBW/4 kHz	For	$3° \leq \theta \leq 48°$
-18	dBW/4 kHz	For	$48° < \theta \leq 85°$
- 8	dBW/4 kHz	For	$85° < \theta \leq 180°$

where θ is defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dBW/4 kHz. The region of the main reflector spillover energy is to
be interpreted as a single lobe and shall not exceed the envelope by more than 6 dBW/4 kHz.

IV. Power Limits for Ku-band Digital Earth Stations

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

$15 - 10\log_{10}(N) - 25\log_{10}\theta$	dBW/4 kHz	For	$1.5° \leq \theta \leq 7°$
$-6 - 10\log_{10}(N)$	dBW/4 kHz	For	$7° < \theta \leq 9.2°$
$18 - 10\log_{10}(N) - 25\log_{10}\theta$	dBW/4 kHz	For	$9.2° < \theta \leq 48°$
$-24 - 10\log_{10}(N)$	dBW/4 kHz	For	$48° < \theta \leq 85°$
$-14 - 10\log_{10}(N)$	dBW/4 kHz	For	$85° < \theta \leq 180°$

where θ is the angle in degrees from the axis of the main lobe, and N is defined below. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dBW/4 kHz.

For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one.
For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

$18 - 10\log_{10}(N) - 25\log_{10}\theta$	dBW/4 kHz	For	$3° \leq \theta \leq 48°$
$-24 - 10\log_{10}(N)$	dBW/4 kHz	For	$48° < \theta \leq 85°$
$-14 - 10\log_{10}(N)$	dBW/4 kHz	For	$85° < \theta \leq 180°$

where θ and N are defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dBW/4 kHz. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dBW/4 kHz.

APPENDIX D

FINAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making* (*Notice*) and the *Further Notice of Proposed Rulemaking (Further Notice)* in IB Docket No. 00-248.[2] The Commission sought written public comment on the proposals in the *Notice* and *Further Notice*, including comment on the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

A. Need for, and Objectives of, the Report and Order

The Telecommunications Act of 1996 requires the Commission in every even-numbered year beginning in 1998 to review all regulations that apply to the operations or activities of any provider of telecommunications service and to determine whether any such regulation is no longer necessary in the public interest due to meaningful economic competition. Our objective is to repeal or modify any rules in Part 25 that are no longer necessary in the public interest, as required by Section 11 of the Communications Act of 1934, as amended.

Specifically, in this *Sixth Report and Order*, the Commission increases the starting point for the earth station antenna gain pattern envelope, from 1.0° to 1.5° off-axis in the C-band, and from 1.25° to 1.5° off-axis in the Ku-band. This will allow the Commission to increase the number of earth station applications eligible for routine treatment. The Commission also adopts new rules to clarify the requirements for very small aperture terminal (VSAT) networks using reservation protocols.

B. Summary of Significant Issues Raised by Public Comments In Response to the IRFA

No comments were submitted directly in response to the IRFAs in either the *Notice* or the *Further Notice*.

C. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein.[4] The RFA generally defines the term "small entity " as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[5] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[6] A small business concern is one which:

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1 *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Title II, 110 Stat. 857 (1996).

2 2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations, *Notice of Proposed Rulemaking*, IB Docket No. 00-248, 15 FCC Rcd 25128 (2000) (*Notice*); 2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations, *Notice of Proposed Rulemaking*, IB Docket No. 00-248, 17 FCC Rcd 18585 (2002) (*Further Notice*).

3 *See* 5 U.S.C. § 604.

4 5 U.S.C. § 604(a)(3).

5 5 U.S.C. § 601(6).

6 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after

(1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[7]

1. Cable Services. The SBA has developed a small business size standard for Cable and Other Program Distribution, which consists of all such firms having $12.5 million or less in annual receipts.[8] According to Census Bureau data for 1997, in this category there was a total of 1,311 firms that operated for the entire year.[9] Of this total, 1,180 firms had annual receipts of under $10 million, and an additional fifty-two firms had receipts of $10 million to $24,999,999.[10] Thus, under this size standard, the majority of firms can be considered small.

The Commission has developed its own small business size standard for a small cable operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving fewer than 400,000 subscribers nationwide.[11] Based on our most recent information, we estimate that there were 1,439 cable operators that qualified as small cable companies at the end of 1995.[12] Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small cable companies that may be affected by the proposed rules.

The Communications Act of 1934, as amended, also contains a size standard for a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[13] The Commission has determined that there are 67,700,000 subscribers in the United States.[14] Therefore, an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed $250 million in the aggregate.[15] Based on available data, we estimate that the number of cable operators serving 677,000 subscribers or less totals approximately 1,450.[16] We do not request or collect information on whether cable operators are affiliated with entities whose gross annual revenues exceed $250,000,000,[17] and therefore are unable to estimate

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consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

7 Small Business Act, 15 U.S.C. § 632 (1996).

8 13 C.F.R. § 121.201, NAICS code 517510.

9 U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 513220 (issued October 2000).

10 *Id.*

11 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determinations that a small cable company is one with annual revenues of $100 million or less. *See Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation*, MM Doc. Nos. 92-266 and 93-215, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408-7409 ¶¶ 28-30 (1995).

12 Paul Kagan Assocs., Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

13 47 U.S.C. § 543(m)(2).

14 *See FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (2001).

15 47 C.F.R. § 76.1403(b).

16 *See FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (2001).

17 We do receive such information on a case-by-case basis only if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to section 76.901(f) of the Commission's rules. *See* 47 C.F.R. § 76.990(b).

accurately the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

2. Satellite Telecommunications. The rules proposed in this *Further Notice* would affect providers of satellite telecommunications services, if adopted. Satellite telecommunications service providers include satellite operators and earth station operators. The Commission has not developed a definition of small entities applicable to satellite operators. Therefore, the applicable definition of small entity is generally the definition under the SBA rules applicable to Satellite Telecommunications.[18] This definition provides that a small entity is expressed as one with $12.5 million or less in annual receipts.[19] 1997 Census Bureau data indicate that, for 1997, 273 satellite communication firms had annual receipts of under $10 million. In addition, 24 firms had receipts for that year of $10 million to $24,999,990.[20]

3. Auxiliary, Special Broadcast and other program distribution services. This service involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit back to the station). The Commission has not developed a definition of small entities applicable to broadcast auxiliary licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules applicable to radio broadcasting stations,[21] and television broadcasting stations.[22] These definitions provide that a small entity is one with either $6.0 million or less in annual receipts for a radio broadcasting station or $12.0 million in annual receipts for a TV station.[23] There are currently 3,237 FM translators and boosters, 4913 TV translators.[24] The FCC does not collect financial information on any broadcast facility and the Department of Commerce does not collect financial information on these auxiliary broadcast facilities. We believe, however, that most, if not all, of these auxiliary facilities could be classified as small businesses by themselves. We also recognize that most translators and boosters are owned by a parent station which, in some cases, would be covered by the revenue definition of small business entity discussed above. These stations would likely have annual revenues that exceed the SBA maximum to be designated as a small business (as noted, either $6.0 million for a radio station or $12.0 million for a TV station). Furthermore, they do not meet the Small Business Act's definition of a "small business concern" because they are not independently owned and operated.

4. Microwave Services. Microwave services include common carrier,[25] private-operational fixed,[26] and broadcast auxiliary radio services.[27] At present, there are approximately 22,015 common

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18 "This industry comprises establishments primarily engaged in providing point-to-point telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications." Small Business Administration, NAICS code 517310.

19 13 C.F.R. § 120.121, NAICS code 517310.

20 U.S. Census Bureau, 1997 Economic Census, Subject Service: Information, "Establishment and Firm Size," Table 4, NAICS 513340 (Issued Oct. 2000).

21 13 C.F.R. § 121.201, NAICS code 515112.

22 13 C.F.R. § 121.201, NAICS code 515120.

23 13 C.F.R. § 121.201.

24 FCC News Release, Broadcast Station Totals as of September 30, 1999, No. 71831 (Jan. 21, 1999).

25 *See* 47 CFR § 101 *et seq.* (formerly, part 21 of the Commission's Rules).

26 Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. *See* 47 CFR parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

27 Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission's Rules. *See* 47 CFR part 74 *et seq.* Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast

carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of this FRFA, we will use the SBA's definition applicable to cellular and other wireless communications companies -- *i.e.*, an entity with no more than 1,500 persons.[28] We estimate that all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition for radiotelephone (wireless) companies.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

None of the rules adopted in this *Sixth Report and Order* will affect small businesses differently from other non-routine earth station applicants. The revisions to the earth station antenna gain pattern envelope will make it easier for all earth station operators, including small businesses, to comply with the rule. The revisions to the VSAT rules do not create any new reporting or recordkeeping requirements.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[29]

This *Sixth Report and Order* adopts revisions to the earth station antenna gain pattern envelope that will increase the number of earth station applications that can be treated routinely, thereby enabling the Commission to act on those earth station applications more quickly. The Commission specifically considered and rejected an alternative proposal to such earth station operators to include in their applications a complex technical demonstration that their earth stations will comply with a new regulatory standard called the "minimum acceptable pointing error." Requiring these technical demonstrations would have increased the burdens placed on these earth station operators, including those that are small entities. Thus, rejection of that proposal benefits these earth station applicants, including small entities.

F. Report to Congress

The Commission will send a copy of the *Sixth Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A). In addition, the Commission will send a copy of the *Sixth Report and Order*, including FRFA, to the Chief

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auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

[28] *See* 13 CFR § 121.201, NAICS code 517212.

[29] 5 U.S.C. §§ 603(c)(1) – (c)(4).

Counsel for Advocacy of the Small Business Administration. A copy of the *Sixth Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register. *See* 5 U.S.C. § 604(b).

APPENDIX E

INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this *Third Further Notice*. We request written public comments on this IRFA. Commenters must identify their comments as responses to the IRFA and must file the comments by the deadlines for comments on the *Third Further Notice* provided above in Section VI. The Commission will send a copy of the *Third Further Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[2] In addition, the *Third Further Notice* and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

The Telecommunications Act of 1996 requires the Commission in every even-numbered year beginning in 1998 to review all regulations that apply to the operations or activities of any provider of telecommunications service and to determine whether any such regulation is no longer necessary in the public interest due to meaningful economic competition.

Our objective is to repeal or modify any rules in Part 25 that are no longer necessary in the public interest, as required by Section 11 of the Communications Act of 1934, as amended. Specifically, this *Third Further Notice* proposes adoption of an off-axis EIRP envelope for earth stations in the Fixed Satellite Service (FSS). Adoption of this proposal would allow earth station operators more flexibility in their choice of power level and antenna size. In addition, *Third Further Notice* invites comment on revising the rules governing very small aperture terminal (VSAT) networks, to allow VSAT operators to use contention protocols, which are not allowed under the current VSAT rules. However, the *Third Further Notice* also invites comment on creating certain operating parameters for VSAT networks that use contention protocols, so that they do not cause harmful interference to adjacent satellites.

B. Legal Basis

The proposed action is supported by Section 11 of the Communications Act of 1934, as amended, 47 U.S.C. § 161.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules May Apply

The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein.[4] The RFA generally defines the term "small entity " as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[5] In addition, the term "small business" has the same meaning as

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1 *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, Title II, 110 Stat. 847 (1996) (CWAAA).

2 *See* 5 U.S.C. § 603(a).

3 *See* 5 U.S.C. § 603(a).

4 5 U.S.C. § 604(a)(3).

5 5 U.S.C. § 601(6).

the term "small business concern" under the Small Business Act.[6] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[7]

1. Cable Services. The SBA has developed a small business size standard for Cable and Other Program Distribution, which consists of all such firms having $12.5 million or less in annual receipts.[8] According to Census Bureau data for 1997, in this category there was a total of 1,311 firms that operated for the entire year.[9] Of this total, 1,180 firms had annual receipts of under $10 million, and an additional fifty-two firms had receipts of $10 million to $24,999,999.[10] Thus, under this size standard, the majority of firms can be considered small.

The Commission has developed its own small business size standard for a small cable operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving fewer than 400,000 subscribers nationwide.[11] Based on our most recent information, we estimate that there were 1,439 cable operators that qualified as small cable companies at the end of 1995.[12] Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small cable companies that may be affected by the proposed rules.

The Communications Act of 1934, as amended, also contains a size standard for a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[13] The Commission has determined that there are 67,700,000 subscribers in the United States.[14] Therefore, an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed $250 million in the aggregate.[15] Based on available data, we estimate that the number of cable operators serving 677,000 subscribers or less totals approximately 1,450.[16] We do not request or collect information on whether cable operators are affiliated

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6 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

7 Small Business Act, 15 U.S.C. § 632 (1996).

8 13 C.F.R. § 121.201, NAICS code 517510.

9 U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 513220 (issued October 2000).

10 *Id.*

11 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determinations that a small cable company is one with annual revenues of $100 million or less. *See Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation*, MM Doc. Nos. 92-266 and 93-215, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408-7409 ¶¶ 28-30 (1995).

12 Paul Kagan Assocs., Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

13 47 U.S.C. § 543(m)(2).

14 *See FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (2001).

15 47 C.F.R. § 76.1403(b).

16 *See FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (2001).

with entities whose gross annual revenues exceed $250,000,000,[17] and therefore are unable to estimate accurately the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

2. Satellite Telecommunications. The rules proposed in this *Further Notice* would affect providers of satellite telecommunications services, if adopted. Satellite telecommunications service providers include satellite operators and earth station operators. The Commission has not developed a definition of small entities applicable to satellite operators. Therefore, the applicable definition of small entity is generally the definition under the SBA rules applicable to Satellite Telecommunications.[18] This definition provides that a small entity is expressed as one with $12.5 million or less in annual receipts.[19] 1997 Census Bureau data indicate that, for 1997, 273 satellite communication firms had annual receipts of under $10 million. In addition, 24 firms had receipts for that year of $10 million to $24,999,990.[20]

3. Auxiliary, Special Broadcast and other program distribution services. This service involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit back to the station). The Commission has not developed a definition of small entities applicable to broadcast auxiliary licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules applicable to radio broadcasting stations,[21] and television broadcasting stations.[22] These definitions provide that a small entity is one with either $6.0 million or less in annual receipts for a radio broadcasting station or $12.0 million in annual receipts for a TV station.[23] There are currently 3,237 FM translators and boosters, 4913 TV translators.[24] The FCC does not collect financial information on any broadcast facility and the Department of Commerce does not collect financial information on these auxiliary broadcast facilities. We believe, however, that most, if not all, of these auxiliary facilities could be classified as small businesses by themselves. We also recognize that most translators and boosters are owned by a parent station which, in some cases, would be covered by the revenue definition of small business entity discussed above. These stations would likely have annual revenues that exceed the SBA maximum to be designated as a small business (as noted, either $6.0 million for a radio station or $12.0 million for a TV station). Furthermore, they do not meet the Small Business Act's definition of a "small business concern" because they are not independently owned and operated.

4. Microwave Services. Microwave services include common carrier,[25] private-operational fixed,[26] and broadcast auxiliary radio services.[27] At present, there are approximately 22,015 common

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17 We do receive such information on a case-by-case basis only if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to section 76.901(f) of the Commission's rules. *See* 47 C.F.R. § 76.990(b).

18 "This industry comprises establishments primarily engaged in providing point-to-point telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications." Small Business Administration, NAICS code 517310.

19 13 C.F.R. § 120.121, NAICS code 517310.

20 U.S. Census Bureau, 1997 Economic Census, Subject Service: Information, "Establishment and Firm Size," Table 4, NAICS 513340 (Issued Oct. 2000).

21 13 CFR § 121.201, NAICS code 515112.

22 13 CFR § 121.201, NAICS code 515120.

23 13 C.F.R. § 121.201.

24 FCC News Release, Broadcast Station Totals as of September 30, 1999, No. 71831 (Jan. 21, 1999).

25 *See* 47 CFR § 101 *et seq.* (formerly, part 21 of the Commission's Rules).

26 Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. *See* 47 CFR parts 80 and 90. Stations in this service are called operational-fixed to distinguish

carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of this FRFA, we will use the SBA's definition applicable to cellular and other wireless communications companies -- *i.e.*, an entity with no more than 1,500 persons.[28] We estimate that all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition for radiotelephone (wireless) companies.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

None of the proposed rules in this notice are intended to increase the reporting, record keeping and other compliance requirements of any telecommunications carrier. Adoption of an off-axis EIRP approach for the regulation of FSS earth stations would require changes to the application form for earth station licenses, those changes are not intended to be more or less burdensome than the current application requirements. Furthermore, those changes, if adopted, would not affect small business earth station operators any differently than other earth station operators.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.

In the *Third Further Notice*, the Commission considers a proposal from the *Further Notice* regarding VSAT networks using contention protocols, and also considers several proposals from commenters. The Commission rejects all those proposals as too restrictive for all earth station operators, including small business operators, and seeks comment on a new proposal which it believes to be less restrictive.

F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules

None.

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them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

[27] Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission's Rules. *See* 47 CFR part 74 *et seq.* Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

[28] *See* 13 CFR § 121.201, NAICS code 517212.